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PATENT & TRADEMARK OFFICE
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In re Application of: MATHER et al.
Title: Blends of Amorphous and Semicrystal-linePolymersHaving Shape Memory Properties
USSN 10/683,558 – Filed: 10/10/03
Docket: 98121.0092
Evelyn M. Sommer, Reg. No. 19,603

DSC traces of PLA (top) quenched from T = 180°C or (bottom) annealed at T = 110°C for 1 hr.

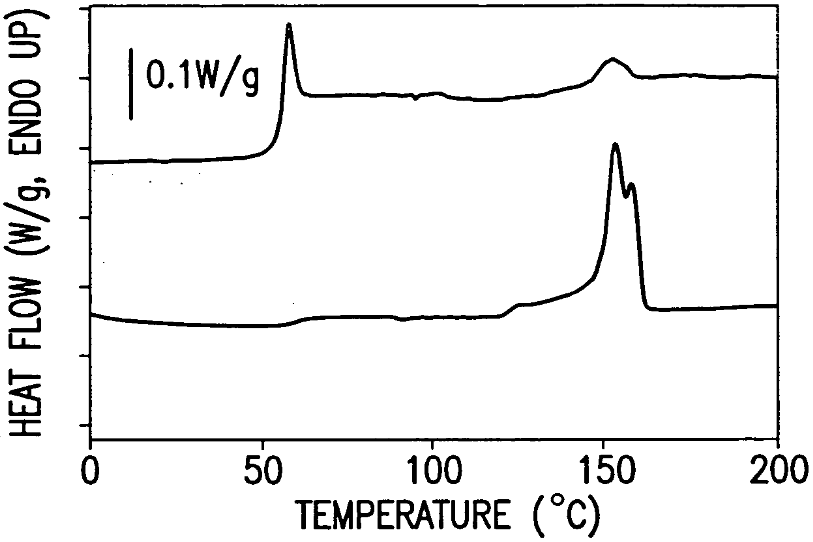


FIG.1

DSC traces for PLA/PVAc blends following annealing for 1 hour at T = 110°C. A heating rate of 10°C/min was employed. PLA wt-% is indicated with each trace.

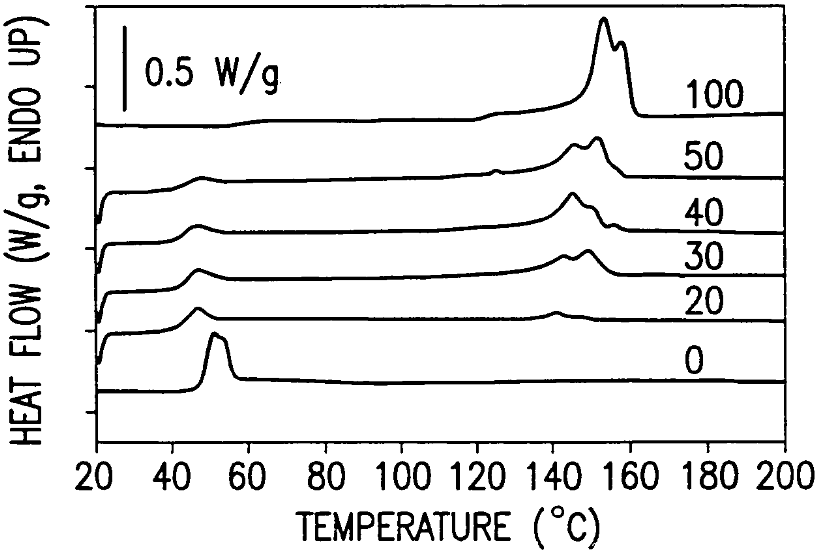


FIG.2

Glass transition temperatures measured following quenching of the PLA/PVAc blends (solid points). Solid line is best fit to the Fox equation, $1/T_g = w_a/T_g^a + w_b/T_g^b$.

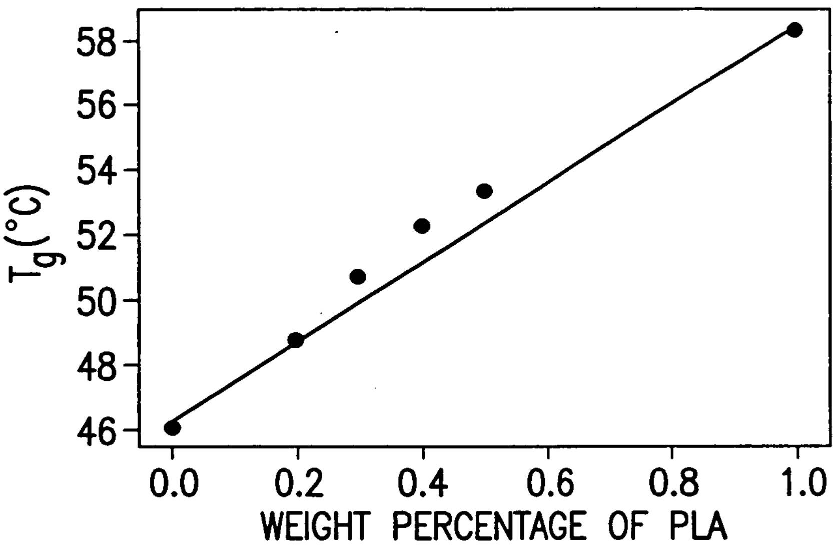


FIG.3

Tensile storage modulus versus temperature for a range of PLA/PVAc blends whose composition is indicated in the plot.

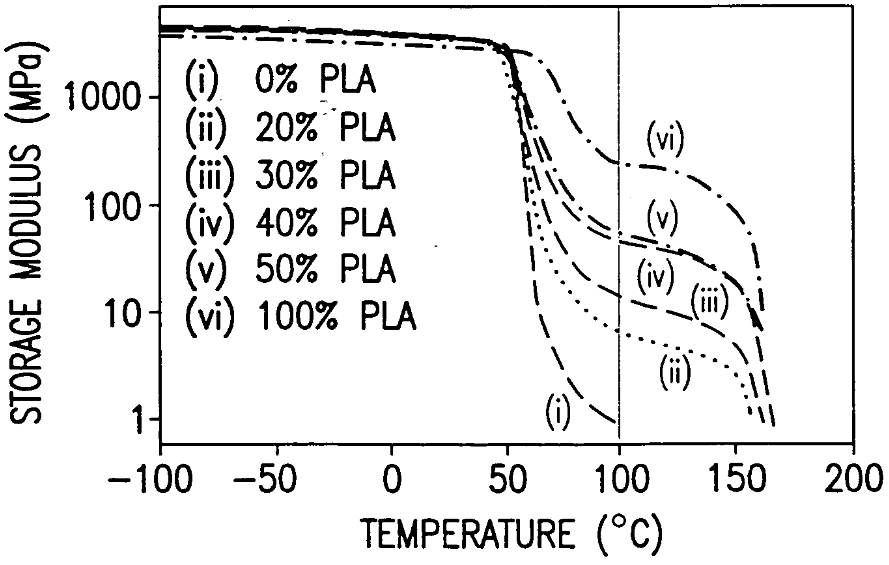
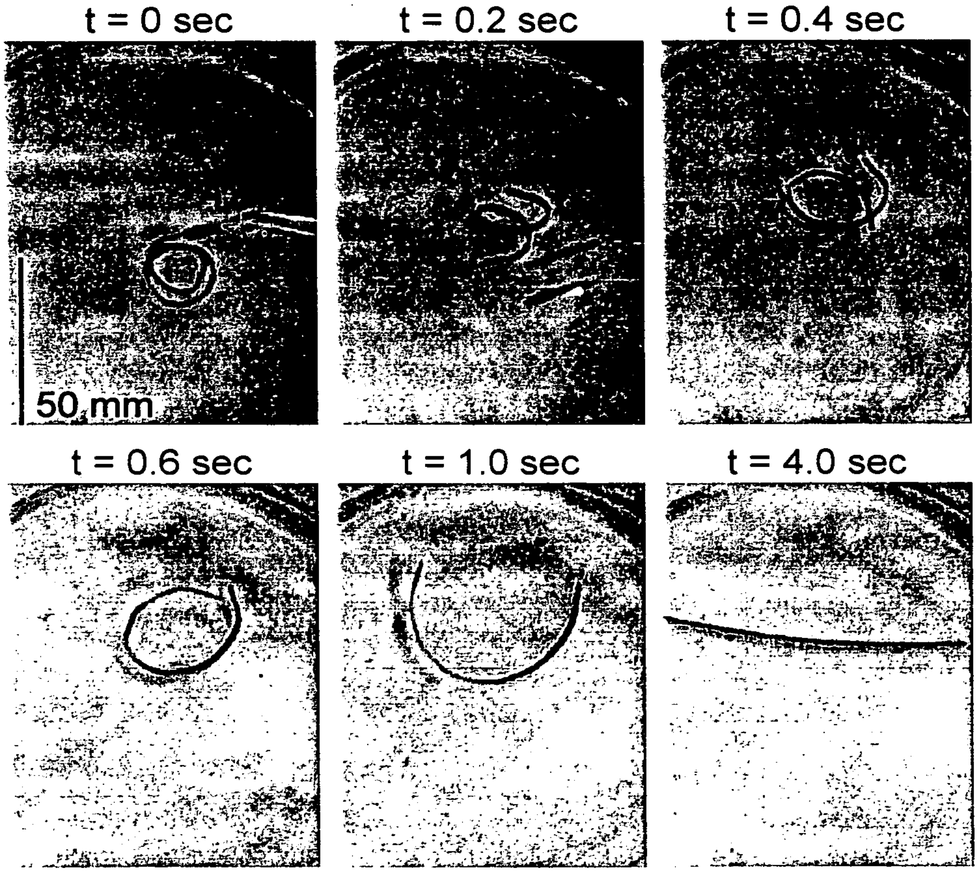


FIG.4

Shape recovery of coiled PLA/PVAc (30:70) blend on exposure to water at T = 65°C. Sample thickness is 0.5 mm.



t = 0 sec

t = 0.2 sec

t = 0.4 sec

t = 0.6 sec

t = 1.0 sec

t = 4.0 sec

FIG.5